REMARKS

According to the Office Action, the Examiner has identified three "patentably distinct inventions" which are defined by the following claims: (I) Claims 1-30; (II) Claims 31-61; and (III) Claims 62-82. More particularly, according to the Office Action:

> "Groups I and II are directed to methods that are distinct both physically and functionally, and are not required one for the other. Group II requires divisions of the reaction solution into two volumes which are exposed to separate magnetic fields and formation of two specimen, which is not required by Group I . . . [and the two groups] require different steps to be performed. Therefore, a search and examination of both methods in one patent application would result in an undue burden, since the searches for the methods are not co-extensive, the classification is different, and the subject matter is divergent."

As to Group III, *i.e.* claims 62-82, the Office Action states that "the apparatus may be used for solutions not consisting of MLC, MLCK, calmodulin, calcium ions, and radiolabeled ATP as required by Inventions I and II. Furthermore, it may be used for other purposes, such as for the enhancement of transport through cell membranes." The Office Action goes on to state that "[b]ecause these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter and different classification, restriction for examination purposes as indicated is proper."

Based upon the determination that the Applicants have claimed three "patentably distinct inventions", the Office Action requires Applicants to elect a single invention for examination even though the restriction requirement may be traversed.

Applicants now elect for examination, with traverse, Claims 1-30. By making this election, Applicants make no admission with respect to the patentability of the non-elected claims or with respect to the scope of the elected claims that may be allowable. In addition, Applicants

respectfully traverse the restriction requirement, in part, and request reconsideration of the Office Action in view of the foregoing and the following remarks.

I. THE RESTRICTION REQUIREMENT AS TO CLAIMS 1-30 AND CLAIMS 31-61 SHOULD BE REMOVED.

Applicants respectfully submit that the restriction of the methods defined by claims 1-30 and the methods defined by claims 31-61 is not proper. Indeed, the methods defined by claims 31-61 are species of the method defined by generic claim 1 (from which claims 2-30 depend). More particularly, generic claim 1 recites a method for determining a biological window of a magnetic field. The method of claim 1 includes the following steps: (1) preparing a reaction solution containing at least MLC, MLCK, calmodulin, calcium ions and radiolabeled ATP; (2) exposing the reaction solution to a magnetic field; (3) removing the reaction mixture from the magnetic field; (4) forming a specimen by placing a quantity of the solution on a substrate; (5) washing the specimen; (6) placing the washed specimen in a suspension liquid; and (7) counting the number of radioactive events over a given period of time. Moreover, the method defined by generic claim 1 covers the method defined by species claims 31-61.

Species claim 31 (from which claims 32-61 depend) recites a method for determining a relative biological effectiveness of a magnetic field using cell free myosin phosphorylation. Like claim 1, claim 31 defines a method for determining a biological window of a magnetic field. Unlike claim 1, claim 31 limits the method for determining a biological window of a magnetic field to such a method using cell free myosin phosphorylation. However, nothing in claim 1 or the specification limits the method defined and described therein to a method excluding the use of cell free myosin phosphorylation. Indeed, claim 1 is silent as to the use of cell free myosin

phosphorylation in connection with the method for determining the biological window of a magnetic field. Thus, claim 1 covers a method that includes a limitation such as the use of cell free myosin phosphorylation in connection with determining the biological window of a magnetic field. Moreover, the recitation in claim 31 of the use of cell free myosin phosphorylation in connection with determining the relative biological effectiveness of a magnetic field does not change the generic-species relationship between claim 1 and claim 31.

Further, for purposes of this restriction, the method defined by species claim 31 includes substantially the same steps as the method defined by generic claim 1. More particularly, the method defined by claim 31 includes the following steps: (1) preparing a reaction solution containing at least MLC, MLCK, calmodulin, calcium ions and radiolabeled ATP; (2) exposing a first volume of the reaction solution to a first magnetic field; (3) exposing a second volume of the reaction solution to a second magnetic field; (4) removing the reaction mixture from the first magnetic field; (5) forming a first specimen by placing a quantity of the first volume on a substrate; (6) removing the reaction mixture from the second magnetic field; (7) forming a second specimen by placing a quantity of the second volume on a substrate; (8) washing the first specimen; (9) washing the second specimen; (10) placing the washed first specimen in a suspension; (11) counting the number of radioactive events over a given period of time; (12) placing the washed second specimen in a suspension; and (13) counting the number of radioactive events over a given period of time.

For purposes of this restriction, the only noteworthy difference between the steps of the method defined by generic claim 1 and the steps of the method defined by species claim 31 is that

species claim 31 includes additional steps relating to a second specimen formed by a second volume of the reaction solution which is exposed to a second magnetic field. More particularly, the "preparing" steps of the methods defined by generic claim 1 and species claim 31 are identical.

For purposes of this restriction, the "exposing" steps of the methods defined by generic claim 1 and species claim 31 are identical except that species claim 31 recites exposing a first volume of the reaction solution to a first magnetic field and exposing a second volume of the reaction solution to a second magnetic field. While generic claim 1 does not expressly recite a first and second volume of the reaction solution or a first and second magnetic field, it does expressly recite "**a** reaction solution" and "**a** magnetic field". Further, nothing in generic claim 1 or the specification limits the scope of claim 1 to a reaction solution having only a single volume or to exposing the reaction solution to only a single magnetic field. Indeed, the "exposing" step of the method defined by generic claim 1 covers the "exposing" step of the method defined by species claim 31.

For purposes of this restriction, the "removing" steps of the methods defined by generic claim 1 and species claim 31 are identical except that species claim 31 recites removing the reaction solution from the first magnetic field and removing the reaction solution from the second magnetic field. As stated above, while generic claim 1 does not expressly recite a first magnetic field and a second magnetic field, it does expressly recite "**a** magnetic field". Nothing in generic claim 1 limits the scope of claim 1 to removing the reaction solution from only a single magnetic

field. Indeed, the "removing" step of the method defined by generic claim 1 covers the "removing" step of the method defined by species claim 31.

For purposes of this restriction, the "forming" steps of the methods defined by generic claim 1 and species claim 31 are identical except that species claim 31 recites forming a first specimen by placing a quantity of the first volume of solution onto a substrate and forming a second specimen by placing a quantity of the second volume of solution onto a substrate. While generic claim 1 does not expressly recite a first and second specimen or a first and second volume of the reaction solution, generic claim 1 does expressly recite "forming **a specimen** by placing **a quantity of the solution** onto a substrate". Nothing in generic claim 1 or the specification limits the scope of claim 1 to forming only a single specimen or to placing onto a substrate a quantity of a solution having only a single volume. Indeed, the "forming" step of the method defined by generic claim 1 covers the "forming" step of the method defined by species claim 31.

For purposes of this restriction, the "washing" steps of the methods defined by generic claim 1 and species claim 31 are identical except that species claim 31 recites washing the first specimen and washing the second specimen. As noted above, while generic claim 1 does not expressly recite a first and second specimen, it does expressly recite "**a** specimen". Nothing in generic claim 1 or the specification limits the scope of claim 1 to washing only a single specimen. Indeed, the "washing" step of the method defined by generic claim 1 covers the "washing" step of the method defined by species claim 31.

For purposes of this restriction, the "placing" steps of the methods defined by generic claim 1 and species claim 31 are identical except that species claim 31 recites placing the washed first specimen in a suspension and placing the washed second specimen in a suspension. As noted above, while generic claim 1 does not expressly recite a first and second specimen, it does expressly recite "**a** specimen". Nothing in generic claim 1 or the specification limits the scope of claim 1 to placing only a single specimen in a suspension. Indeed, the "placing" step of the method defined by generic claim 1 covers the "placing" step of the method defined by species claim 31.

For purposes of this restriction, the "counting" steps of the methods defined by generic claim 1 and species claim 31 are identical except that claim 31 recites counting the number of radioactive events over a given time for the washed first specimen and counting the number of radioactive events over a given time for the washed second specimen. As noted above, while generic claim 1 does not expressly recite a first and second specimen, it does expressly recite "**a** specimen". Nothing in generic claim 1 or the specification limits the scope of claim 1 to counting radioactive events for only a single specimen. Indeed, the "counting" step of the method defined by generic claim 1 covers the "counting" step of the method defined by species claim 31.

Thus, for purposes of this restriction, the only significant distinction between the steps of the methods defined by generic claim 1 and species claim 31 relates to the fact that claim 31 defines a second specimen formed by a second volume of the reaction solution which is exposed to a second magnetic field. This distinction, however, does not change the fact that the method defined by claim 31 (and claims 32-61 which depend therefrom) is a species of the method

defined by generic claim 1. More particularly, claim 1 broadly claims "**a** specimen" formed by "**a** quantity" of the reaction solution which is exposed to "**a** magnetic field". The steps of the method defined by generic claim 1 do not limit the number of specimens, the number of quantities (or volumes) of the reaction solution, or the number of magnetic fields to only one of each. Instead, the steps of the method defined by generic claim 1 are broad enough to cover the steps of the method defined by species claim 31.

In sum, the methods defined by generic claim 1 (and claims 2-30 which depend therefrom) and species claim 31 (and claims 32-61 which depend therefrom) are neither physically nor functionally distinct. Although the method defined by generic claim 1 does not require a first and second specimen, a first and second volume of the solution, and/or a first and second magnetic field, generic claim 1 covers a method including a first and second specimen, a first and second volume of the solution, and/or a first and second magnetic field. Further, while the method defined by generic claim 1 does not require the use of cell free myosin phosphorylation in connection with determining a biological window of a magnetic field, generic claim 1 covers such a method.

Additionally, the Office Action states that claims 1-30 and claims 31-61 are both "classified in class 435, subclass 15". As a result, separate searches and examinations for these claims will not be required.

Accordingly, Applicants respectfully submit that the restriction as to claims 1-30 and claims 31-61 is not proper and should be removed.

II. CONCLUSION

For all of the foregoing reasons, Applicants respectfully submit that (1) the restriction requirement as between the invention defined by claims 1-30 and the invention defined by claims 31-61 should be removed, and (2) Claims 1-61 should proceed to examination and prosecution on the merits.

Respectfully submitted,

Paul S. Weidlich
Reg. No. 43,980

Attorney for Applicants
Chambliss, Bahner & Stophel, P.C.
1000 Tallan Building
Two Union Square
Chattanooga, Tennessee 37402-2500
Telephone: 423-756-3000
Facsimile: 423-508-1232